

### Remarks/Arguments

A Petition for a One Month Extension of Time to respond to the outstanding Office Action of May 25, 2003 is enclosed. Reexamination and reconsideration is requested.

In the Office Action of May 25, 2003, the Examiner required that the Applicant, under 35 U.S.C. 121, elect between Species A: an inductive thickness measurement system for controlling a scoring process and Species B: an inductive thickness measurement system for controlling a molding process. Applicant confirms the election of Species A and withdraws claims 9-11 as being drawn to a non-elected invention.

In the Specification, the paragraphs beginning at page 4, line 5 and at page 4, line 16 have been corrected to correct minor editorial problems.

In the Office Action dated May 25, 2003, the Examiner rejected claims 1-8, 12 and 13 under 35 U.S.C. 102(b) as being anticipated by GB 2035566. GB2035566 is directed at an apparatus for measuring the thickness of a material using a magnet and measuring coil assembly and a steel ball placed on the opposite side of the material from that of the assembly. The movement of the steel ball is controlled by the magnet. The reference does disclose other "magnetically movable objects", and the reference also does not teach or suggest the measurement of the thickness of a material without the use of a magnet and magnetically movable object located on the opposite side of the material from the sensing apparatus.

Claims 1 and 12 have been amended to recite:

"providing an automotive trim panel material having a known shape and a region in which the thickness of said trim panel material may be measured;

providing a holding form having essentially the same shape as at least a portion of said trim panel material known shape wherein the portion of the holding form which corresponds to the region of the trim panel material to be measured is metallic;

contacting said automotive trim panel material with said holding form such that said

region to be measured is in contact with said metal; ...”

Support can be found at page 7 lines 1-5 and 6-17 which recite, with reference to **Fig. 2**, that a nest or fixture **20** supports the target material **14** so that it is properly positioned to communicate with the sensor. The specification goes to disclose that the thickness of the non-metallic material **12** is measured using the sensor **10** while the panel is still in the mold. No new matter is believed to have been entered.

As disclosed in the specification, a polymeric skin material such as used to form the outer surface of an automotive instrument panel is formed in a metal mold and upon solidification an area outlining an air bag door needs to be measured for thickness prior to being scored to leave a desired thickness of material remaining. The measurement of thickness of the polymeric skin material occurs with the skin material positioned over a conductive metallic target material preferably in a form that the skin material conforms to such as a nest or fixture (see page 7, lines 1-5) or a mold (see page 7, lines 6-17). These conforming target materials are stationary and assure accuracy of measurement due to their surface having essentially the same shape as the skin material.

Thus, there are no movable objects or magnets required to locate and position the target. On this basis alone, GB 20355566 is believed distinguished given the amendments herein. Indeed, for articles having a lot of shape, such as a skin for the instrument panel of a vehicle which may also have some local thickness disruptions on the backside of the skin due to the nature of the casting or spraying process which forms the skin, a movable target is extremely difficult to manage. Thus, a stationary form containing a metallic target beneath at least the area to be measured is required. In that manner only access to one side of the skin is required by the sensor and the complex shaped polymeric skin is held in place for accurate determination of thickness. GB 2035566 does not contemplate the ability to provide measurement in such fashion.

The Examiner also rejected claims 1-8 and 12-13 under 35 U.S.C. 103(a) as being

unpatentable over Bauer, et al. (United States Patent No. 6,294,124) in view of GB 2035566 and in further view of GB 2217835. Bauer teaches the use of an ultrasonic sensor after the groove scoring is produced by a laser beam (column 6, lines 55-59). The benefits of utilizing an inductive sensor via the use of a "metallic holding form" (see claim 1) are not at all disclosed or suggested by Bauer.

The invention herein measures the polymeric skin material **prior** to scoring such that the laser may be controlled to cut a groove wherein the thickness of the material remaining is closely controlled so that air bag deployment is uneventful. Measuring the thickness of the groove **after** the groove has been cut is only useful as a **recording means** and has no effect on controlling the thickness of skin material remaining, it merely measures it. Bauer also discloses the use of a low power laser beam to "indicate the **precise location** of the cover surface at a point just ahead of the cutting laser." (emphasis added). Again, as noted, Applicant's invention is to an inductive sensor system to **measure material thickness** according to the features recited in the claims.

The Examiner is correct in item 8, page 5 of the Office Action of May 25, 2003 that Bauer, et al. ('124) teaches the measuring of thickness "of the remaining material". However, that is historical information which is not useful in assuring that such thickness, prior to scoring, is in a desired range. On that note, use of the apparatus disclosed in GB 2035566 would not be practical in view of Bauer, et al. ('124) since access to the opposite side of the trim piece cover layer 16 would not be possible (see FIGS. 1, 3, 4 and 4A of '124) as the cover layer has to be placed into a form to position the layer for accurate scoring by the laser.

Or, stated another way, it is not believed that Bauer and GB 2035566 are properly combinable.

Regarding GB 2217835, which was also cited, the reference discloses the use of an eddy current gauge to determine the position of a reference point or level (metal bed) (see claim 1) relative to the measuring device and requires a second "radiation type measuring device to measure the distance to a first surface of the object". Applicants accomplish measuring in a

single step with a single sensor without the need for the subtractive step (thickness = A + Q - P).

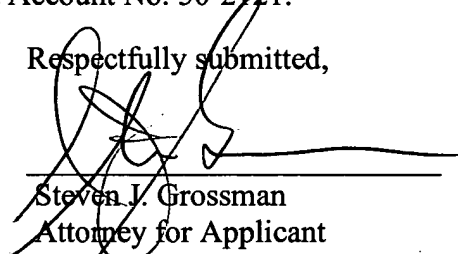
Regarding item 9 of the Office Action of May 25, 2003, taking GB 2035566 in view of Bauer, et al. it would not be possible to manipulate a moving ball and magnet along a thin pliable polymeric skin which requires nearly full support for measurement and scoring.

In consideration of the amendments to the claims and the remarks hereinabove, Applicants respectfully submit that all claims currently pending in the application are believed to be in accordance for examination. Allowance at an early date is respectfully solicited.

In the event the Examiner deems personal contact is necessary, please contact the undersigned attorney at (603) 668-6560.

In the event there are any deficiencies or additional fees are payable, please charge then (or credit any overpayment) to our Deposit Account No. 50-2121.

Respectfully submitted,

  
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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 19, 2003, at Manchester, New Hampshire.

By:   
Carol McClelland